What is claimed is:

1. A device for converting radiant energy into electricity, said device comprising:

a magnetic dipole module having a plurality of ferromagnetic nanocrystals disposed in a matrix; and

an electrical coil enclosing at least a portion of said magnetic dipole module.

2. A device as recited in claim 1 wherein said matrix comprises a material transparent to the radiant energy.

3. A device as recited in claim 2 wherein said material comprises aluminum oxide.

4. A device as recited in claim 1 further comprising a permanent magnet disposed inside said magnetic dipole module.

5. A device as recited in claim 1 further comprising an electromagnet disposed inside said magnetic dipole module.

6. A device as recited in claim 1 wherein said ferromagnetic nanocrystals include metal ions, said metal ions comprising a member of the group consisting of nickel, iron, cobalt, neodymium, and gadolinium.

7. A device as recited in claim 1 further comprising a plurality of dopant particles disposed in said matrix, said dopant particles suitable for absorbing heat from said ferromagnetic nanocrystals.

8. A device as recited in claim 7 wherein said dopant particles comprise a member of the group consisting of titanium, titanium-doped sapphire, copper, and yttrium.

9. A device as recited in claim 1 wherein said magnetic dipole module comprises an enclosure transparent to the radiant energy.

10. A device as recited in claim 1 wherein said magnetic dipole module comprises an enclosure of soft magnetic material.

11. A device as recited in claim 1 further comprising a second magnetic dipole module having a plurality of ferromagnetic nanocrystals disposed in a second matrix.

12. A device as recited in claim 11 further comprising a second electrical coil enclosing at least a portion of said second magnetic dipole module.

13. A device for converting radiant energy into electricity, said device comprising:

a magnetic dipole module having a plurality of ferrite crystals disposed in a matrix; and

an electrical coil enclosing at least a portion of said magnetic dipole module.

14. A device as recited in claim 13 wherein said ferrite crystals include metal ions, said metal ions comprising a member of the group consisting of nickel, iron, cobalt, neodymium, and gadolinium.

15. A device for converting radiant energy into electricity, said device comprising:

a magnetic dipole module having a plurality of yttrium-iron-garnet nanocrystals disposed in a matrix; and

an electrical coil enclosing at least a portion of said magnetic dipole module.

16. A system for generating electricity, said system comprising:

a magnetic dipole module having a plurality of single-domain magnetic particles disposed in a matrix; and

a source of radiant energy for irradiating said magnetic dipole module;

an electrical coil enclosing at least a portion of said magnetic dipole module.

17. A system as recited in claim 16 wherein said single-domain magnetic particles comprises ferromagnetic nanocrystals.

18. A system as recited in claim 16 wherein said single-domain magnetic particles comprises ferrite crystals.

19. A system as recited in claim 16 wherein said single-domain magnetic particles comprises yttrium-iron-garnet crystals.

20. A system as recited in claim 16 wherein said source of radiant energy comprises a laser.

21. A system as recited in claim 20 further comprising a shutter disposed between said source of radiant energy and said magnetic dipole module.

22. A system as recited in claim 20 further comprising an optical fiber having a first end attached to said source of radiant energy and a second end attached to said magnetic dipole module.

23. A device for converting radiant energy into electricity, said device comprising:

a magnetic dipole module having

a cylindrical core, said cylindrical core formed of material transparent to the radiant energy;

a plurality of transparent annular disks, said transparent annular disks formed of material transparent to the radiant energy, each said transparent annular disk having a central opening therethrough;

a plurality of soft ferromagnetic annular disks, each said soft ferromagnetic annular disk having first

and second sides coated with a layer of ferromagnetic nanocrystals embedded in a matrix, each said soft ferromagnetic annular disk further having a central opening therethrough, said plurality of soft ferromagnetic annular disks alternatingly stacked with said plurality of transparent annular disks, said cylindrical core extending through said soft ferromagnetic annular disk central openings and said transparent annular disk central openings; and

an electrical coil enclosing at least a portion of said magnetic dipole module.

24. A device as recited in claim 23 wherein said transparent cylindrical core comprises titanium-doped sapphire.

25. A device as recited in claim 23 wherein said transparent cylindrical core comprises yttrium aluminum garnet.

26. A device as recited in claim 23 wherein said magnetic dipole module further includes a cylindrical shell and an endcap for enclosing said cylindrical core, said

plurality of transparent annular disks, and said soft ferromagnetic annular disks.

27. A device as recited in claim 23 wherein at least one of said plurality of transparent annular disks comprises a coating reflective to the radiant energy.

28. A device as recited in claim 23 wherein a Curie temperature of said soft ferromagnetic annular disks is greater than a Curie temperature of said ferromagnetic nanocrystals.

29. A method for converting radiant energy into electricity, said method comprising the steps of:

aligning a plurality of ferromagnetic nanocrystals so as to produce an aggregate magnetic field;

placing an electrical conductor into said aggregate magnetic field; and

directing radiant energy at said plurality of ferromagnetic nanocrystals such that said aggregate magnetic field decays.

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30. A method as recited in claim 29, wherein said plurality of ferromagnetic nanocrystals are suspended in a matrix transparent to said radiant energy.

31. A method as recited in claim 29, wherein said plurality of ferromagnetic nanocrystals are embedded within a matrix layer disposed on soft magnetic material.

32. A method as recited in claim 29, wherein said step of directing radiant energy comprises the step of heating said plurality of ferromagnetic nanocrystals to a temperature T_1 greater than the Curie temperature T_C of said ferromagnetic nanocrystals.

33. A method as recited in claim 29 further comprising the step of removing said radiant energy from said plurality of ferromagnetic nanocrystals such that said aggregate magnetic field regenerates.